What is claimed is:

1. An empty MHC complex comprising a single chain MHC molecule with a peptide-binding groove.

2. The MHC complex of claim 1, wherein the MHC complex is class II and the α and β chain of the molecule are covalently linked.

3. The MHC complex of claim 2, wherein the complex comprises covalently linked in sequence: 1) a class II β chain, 2) a single chain linker sequence, and 3) a class II α chain.

4. The MHC complex of claim 3, wherein the chain of 1) or 3) lacks the transmembrane domain and the cytoplasmic domain, or portions thereof.

5. The MHC complex of claim 3, wherein the chains of 1) and 3) lack the transmembrane domain and the cytoplasmic domain, or portions thereof.

6. The MHC complex of claim 3, wherein the single chain linker sequence contains from about 15 to 40 amino acids (inclusive).

7. The MHC complex of claim 3, wherein the complex is contacted by a presenting peptide under conditions which form a loaded single chain MHC complex.

8. A loaded MHC complex which comprises a transmembrane domain, comprising: an empty MHC molecule which comprises a peptide binding groove and a presenting peptide non-covalently linked to peptide binding groove to form a loaded MHC complex, where the loaded MHC complex is capable of modulating the activity of a T cell.

9. The MHC complex of claim 7, wherein the presenting peptide contains from about 6 to 30 amino acids (inclusive).

10. The MHC complex of claim 3, wherein a linker sequence is covalently linked to the N-terminal end of the MHC complex.

11. The MHC complex of claim 3, wherein the linker sequence includes a cleavage site and contains from about 8 to 12 amino acids.

12. The MHC complex of claim 4, wherein the complex further comprises one or more amino acids added to the N- or C-terminal end of the complex.

13. The MHC complex of claim 12, wherein the amino acids are hydrophilic or encode a membrane anchor.

14. A multivalent MHC complex comprising two or more linked MHC complexes of claim 1.

15. The MHC complex of claim 3, wherein the β and α chain are each selected from the group consisting of IE, IA, DR, DQ and DP proteins.

16. A method for identifying a presenting peptide which can modulate the activity of T cells, comprising:

introducing into host cells cloning vectors that each contain DNA constructs that code for the MHC complex of claim 2,

culturing the host cells under conditions suitable for expression of the MHC complex,

purifying the MHC complex from host cells which express the MHC complex and contacting the MHC complex with a presenting peptide sufficient to form a loaded MHC complex,

contacting T cells with the loaded MHC complex to modulate T cell activity; and

modulating the activity of the T cell thereby identifying the presenting peptide.

17. The method of claim 16, further comprising ligating a plurality of DNA sequences each encoding an empty MHC complex to thereby provide the DNA constructs.

18. The method of claim 16, wherein host cells are selected that express empty MHC complex which, when loaded, can antagonize T cell receptors.

19. A DNA construct encoding the MHC complex of claim 3, 4 or 5.

20. The DNA construct of claim 19 further comprising a translational initiation sequence corresponding to the Kozak consensus sequence.

21. The DNA construct of claim 20, wherein the gene encoding the MHC complex is under the transcriptional control of a mammalian viral gene promoter.

22. A method of suppressing an immune response in a mammal comprising administering to the mammal an effective amount of the loaded MHC complex of claim 7.

23. The method of claim 22, wherein the mammal suffers from or is susceptible to an autoimmune disorder.

24. The method of claim 23, wherein the autoimmune disorder is any one of multiple sclerosis, insulin-dependent diabetes mellitus, rheumatoid arthritis, myasthenia gravis or chronic allergies.

25. A method of inducing apoptosis in T cells comprising contacting the T cells with an effective amount of the MHC complex of claim 3 or 7.

26. An MHC class II-peptide fusion complex comprising,

a single chain MHC class II molecule wherein the α and β chains of the MHC class II molecule are covalently linked; and

a presenting peptide covalently linked to the peptide binding groove of the MHC class II molecule, where the fusion complex is capable of modulating the activity of a T cell.

27. The fusion complex of claim 26 wherein the complex is soluble.

28. A DNA construct coding for the fusion complex of claim 27.

29. A method of suppressing an immune response in a mammal comprising administering to the mammal an effective amount of a DNA sequence comprising the DNA construct of claim 28.

30. The method of claim 29, wherein the DNA sequence is administered intramuscularly.

31. The method of claim 29, wherein the DNA sequence is administered intradermally, transdermally, orally or nasally.

32. The fusion complex of claim 26 wherein the complex is associated with cellular membranes.

33. The fusion complex of claim 32, wherein the complex comprises a single transmembrane domain in the α or β chain.

34. A DNA construct coding for the fusion complex of claim 32 or 33.

35. A method of inducing an immune response in a mammal comprising administering to the mammal an effective amount of a DNA sequence comprising the DNA construct of claim 34.

36. The method of claim 35, wherein the DNA sequence is administered intradermally.

37. The method of claim 35, wherein the DNA sequence is administered intramuscularly, transdermally, orally or nasally.

38. A method for selecting host cells which express the fusion complex of claim 33 comprising:

introducing into host cells cloning vectors that each contain DNA constructs that encode for the fusion complex of claim 33,

culturing the host cells under conditions suitable for expressing the MHC complex; and

purifying host cells which express the fusion complex.

39. The method of claim 38, wherein the host cells lack one or more T cell costimulatory factors on the cell surface.

40. A method for selecting host cells which express a T cell costimulatory factor and the fusion complex of claim 33 comprising:

introducing into host cells cloning vectors, which vectors each contain DNA constructs that encode, either independently or together, a T cell costimulatory factor and the fusion complex of claim 33,

culturing the host cells under conditions which express both the T cell costimulatory factor and the fusion complex; and

purifying host cells which express both the T cell costimulatory factor and the fusion complex.

41. The host cells produced by the method of claim 38 or 39.

42. The host cells produced by the method of claim 40.

43. A method of suppressing an immune response in a mammal comprising administering to the mammal an effective amount of the host cells of claim 41.

44. A method of inducing an immune response in a mammal comprising administering to the mammal an effective amount of the cells of claim 42.

45. The methods of claims 29 and 43, wherein the mammal suffers from or is susceptible to an autoimmune disorder or chronic allergies.

46. The method of claim 45, wherein the autoimmune disorder is any one of multiple sclerosis, rheumatoid arthritis, myasthenia gravis, insulin-dependent diabetes mellitus.

47. The method of claim 44, wherein the mammal is or is susceptible to being immunocompromised.

48. The method of claim 47, wherein the immunocompromised mammal has been exposed to viral infection or chemotherapy.

49. A transgenic non-human animal comprising a transgene encoding the MHC class II complex of claim 3 or 26, wherein the transgene is under the transcriptional control of a mammalian gene promoter.

50. The animal of claim 49, wherein expression of the transgene in the animal modulates the activity of T cells.

51. The animal of claim 49, wherein the T cells are T-helper cells.

52. A method of inducing T cells comprising contacting the T cells with the MHC complex of claim 7.